READi Workshop 2014

Research Exchange And Discovery Workshop.

Contribution ID: **26** Type: **not specified**

Illuminating Small Metal Clusters with Soft X-Rays

Wednesday 9 April 2014 10:20 (20 minutes)

Summary

The understanding of several emergent phenomena such as magnetism, catalysis, strong electron correlations (High TC Superconductors) remains unclear despite the fact that the electronic structure of matter is very well understood on an atomic scale. One way to investigate these types of systems is to create simple model systems. The goal is to create systems which can serve as a precise benchmark for extended theoretical investigations. We build small quantum systems out of several metallic atoms on a very well defined surface. Soft X-Rays are the best way to study these systems because of the chemical selectivity. The electronic structure of these simple "solid state plus X"systems can be linked to theory band structure calculations via Angle-Resolved Photoelectron Spectroscopy while chemical (catalytic) reactions can be traced by shifts to the inner electron core levels. Also calculated magnetic moments are observable via X-Ray Magnetic Circular Dichroism.

Presenter: BAEV, Ivan

Session Classification: Photon Science